

Improving Investment Decisions Using Behavioural Finance Theory

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<p>This is a research-oriented thesis that focuses on behavioural finance theory and how it may be tied with the venture capital (VC) investment field in Finland. Behavioural finance theory explains how the psychological factors often affect our decision-making and can lead to irrational financial behaviour. These theories will be tied with the venture capital investment field, with the process of how investors assess startups and choose which companies they would want to invest in.</p> <p>There is little secondary information on how behavioural factors may affect investment decisions in the VC sector. So, the research will be focused on getting this information through conducting several interviews and discussing it with investors directly. This can be linked to the real investor work-life practices and real decision-making that investors go through when assessing a startup.</p> <p>The thesis is divided into six parts. First, the theoretical framework introduces behavioural finance theories and the VC field in Finland. Then, the research design is explained: how the interviews were conducted and how to ensure research validity and reliability. Finally, the interview results are explained and outlined in the discussion section.</p>	
Keywords Behavioural finance, investment, venture capital, startups, entrepreneurship.	

Table of contents

1	Introduction	1
1.1	Background	1
1.2	Research questions.....	1
1.3	Demarcation	3
1.4	International aspect.....	3
1.5	Expected thesis outcome	4
2	Venture capital overview.....	5
2.1	Venture capital trends	7
2.2	Team factor in venture capital investment.....	8
2.3	Smart money factor	9
3	Behavioural finance existing theories and concepts.....	10
3.1	Key concepts.....	10
3.2	Investor behaviour	12
3.3	Behavioural finance theory	13
3.4	Prospect theory	14
3.5	Behavioural investor types	15
4	Research design and methods	18
4.1	Desktop research using secondary sources	18
4.2	Interview research	18
4.3	Interview design.....	20
4.4	Validity and reliability.....	20
4.5	Risks and risk management	21
5	Results.....	22
5.1	Investigative question #1 — Behavioural factors awareness	22
5.2	Investigative question #2 — Theoretical framework relevancy	22
5.3	Investigative question #3 — How investors manage biases	23
5.4	Investigative question #4 – Other non-financial aspects investors look at	25
5.5	Investigative question #5 - Ways to leverage on behavioural finance effects and recommendations for entrepreneurs.....	27
6	Discussion	30
6.1	Degree of behavioural finance significance in Finnish startup ecosystem	30
6.2	Best practices taken from interviews and theoretical framework	30
7	Conclusions	32
	References	34
	Appendices.....	36
	Appendix 1. Research interview invitation letter	36
	Appendix 2. Interview questions	37

1 Introduction

1.1 Background

The field of behavioural finance is relatively new in finance sphere. It proposes psychology-based theories to explain market fluctuation anomalies (Investopedia 2018). Traditional finance models are based on implication that market participants always act in a rational and wealth-maximizing manner. Usual finance theories may fail in explaining certain market deviations and can sometimes limit the ability to make accurate predictions on the market.

Behavioural finance implies that market participants have a certain bias, based on their psychology and emotional factors. It leads to irrational financial decisions and possible investment blinders. For example, behavioural finance can give clearer explanation why market bubbles and panics occur, where the traditional mathematical theories do not offer coherent interpretation of these events. (Investopedia 2018)

The thesis objective is to introduce current behavioural finance theories with examples from past investment decisions cases. The research will be aimed to test these theories on real working life through conducting interviews with people working in the investment sector.

1.2 Research questions

In this thesis the research problem was defined as: Are behavioural finance theories justified in real investment practices?

Investigative questions:

1. How much are investors aware about behavioural finance effects?
2. To what extent the theoretical framework presented is relevant in real investment practices in Finland?
3. How investors manage biases in their decision-making?
4. On what other non-financial information do investors look, when choosing a company to fund?
5. What are the ways for entrepreneurs to leverage on these biases? Recommendations for entrepreneurs.

Table 1. Thesis overlay matrix

Investigative Questions (IQs)	Theoretical framework	Method	Results
IQ 1. Behavioural effects awareness.	Different types of biases in behavioural finance	Interview question	Chapter 5&6
IQ 2. Theoretical framework relevancy	Behavioural Finance theory application	Interview question	Chapter 5&6
IQ 3. How investors manage biases	Similarity bias, confirmation bias, anchoring	Interview question	Chapter 5&6
IQ 4. Other non-financial aspects that investors look at	Investor behaviour	Interview question	Chapter 5&6
IQ 5. Ways to leverage on behavioural finance effects and recommendations for entrepreneurs.	Discussion part, Investor behaviour	Interview question, secondary sources	Chapter 5&6

1.3 Demarcation

As the possible effects of behavioural finance can vary very broadly, the research will be demarcated with 5 main points. It is an entirely separate sphere of science which has multitude of theories and ways of conducting research on it. So to limit the study, the demarcation criteria of this study will be set as following:

1. Investors as a target group and audience. This thesis will investigate only the investors behaviour and their financial decisions. While, behavioural finance may investigate the general public behaviour and decisions of common people, this study focus is on investors solely.
2. Only investment in small and medium size companies will be focused on. The psychological factors come into play more strongly. Usually in big corporate investment, the financial data is always more prevalent than in investment in a small company or startup, which are only aimed at growth, but still in a stage of development.
3. In the research, only good practices will be focused on. The interviews will be conducted only with respondents having positive entrepreneurship or investment history.
4. Qualitative method of research will be applied. This method is preferred as it will be more effective to know the responses in-depth and collect more subjective information, which is more valuable for a sociology-based sphere such as behavioural finance.
5. Only investors in Finland are going to be interviewed. Due to time and resource limitations, only investors in Helsinki area will be interviewed.

1.4 International aspect

While all research will be conducted in Helsinki, Finland, it is possible to extrapolate its results to global scale. Because the startup scene ties with innovation and disruption, the investor and startup behaviour might vary not so much geographically. Lots of startup who started in Finland, currently operate globally and have offices outside Finland. With that, the research results can be potentially used in any country.

1.5 Expected thesis outcome

End result

The expected outcome of research are the suggestions and factors to consider for people making investment decisions. With the results from conducted research it will be possible to compare collected data with theoretical knowledge. It will be possible prove or discard several hypotheses of behavioural finance taken from secondary data sources.

The result is providing suggestions for investors and entrepreneurs (Discussion part) to consider when making investment decisions or raising funds for their own venture.

Benefit to stakeholders

The thesis target audience are investors and entrepreneurs that willing to learn how psychology and sociological factors can influence their behaviour and decision-making.

In my opinion, the general level of awareness is sometimes low when it comes to behavioural finance and how it may influence financial decisions. This study is aimed to raise awareness that human psychology often influences financial decision-making. With being conscious about this, it will be possible to avoid investment mistakes and make better financial decisions in the future.

2 Venture capital overview

In this section, the venture capital field will be briefly overviewed and explained how it works. The full analysis of different specifics of venture capital field would be hundreds of pages, but for the purposes of thesis, the brief overview will be enough.

What venture capital funds (or VC funds) do is invest (buying equity with cash) into a company who just started up or wants to scale. Normally VCs buy in equity between 15% and 45% of the company (Forbes 2018). After the startup scales and gets further investments, the startup value also increases. And when the startup exits, investors can finally cash in and get a return on their investment.

There are generally two factors in how specifically the venture capital funds operate. Firstly, Venture Capital funds work in a specific industry, where they have the most knowledge and experience. And secondly, they aim to cooperate with startups in a specific point of their development.

Initially, investment in the company that did not start its operations yet, is called a seed-stage investment. At this stage, statistically speaking most startups fail and it is considered a high-risk investment (Quintero 2017). After the company gets initial investment and starts operations it goes through series of investment rounds: Round A, B, C and D, where it gets further investments, increasing its value.

And finally, after the company successfully sells its product or a service and is likable by general audience, it is time for an exit. Company exit is a point where the investors can finally cash in. There are two main paths how it is possible. The first, is through M&A process, when a startup is sold to a large corporation (e.g. Google, Microsoft), where all investors equity is sold, receiving cash. That way, for instance, a Finnish sleeping tracker company Beddit was sold to Apple in may 2017. The second way is an IPO (initial public offering), where the company issues shares that can be freely sold on the market, meaning anybody can buy them. For instance, in April 2018, music listening platform Spotify did an initial public offering, valuing \$29,5b on the share market.

VC funds have been seen as drivers of innovation and disruption of market with new technologies. Many of current big innovative companies like Uber or Airbnb have also partaken in cooperation with venture capitalists. Venture capital investment volume has been growing ever since early 2000s. In Europe particularly, there has been a boom of venture

capital investment volume in 2007 and 2008. And since 2009 the volume has been steadily growing (Figure 1). In EU, Finland is the third country to have venture capital investment value, proportional to its GDP. Finnish startup scene is also known for its high connectives and strong community with big annual European-level events like SLUSH and Nordic Business Forum.



Figure 1. Total value of venture capital funds raised in Europe from 2007 to 2016 (in million euros). (Statista)

Venture capital investments

% of GDP

The data shows the Total Venture capital (code VENTURE) expressed as a percentage of GDP ... [more](#)

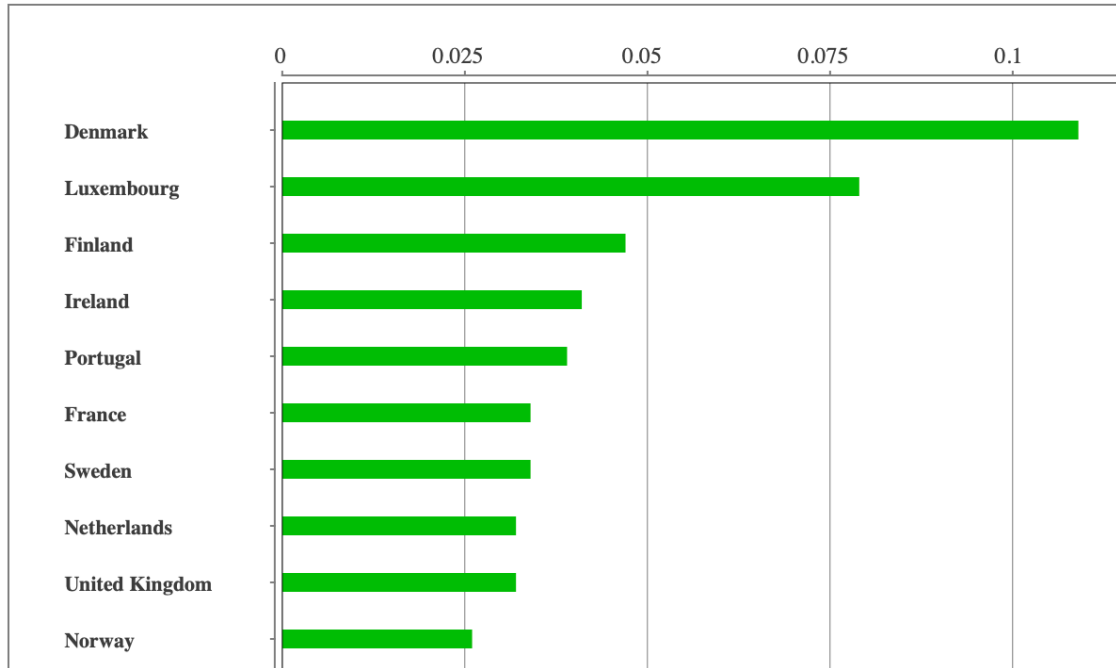


Figure 2. Venture capital investments as a % of GDP in 2015. (Eurostat)

2.1 Venture capital trends

Venture capital funds funding always played a big role in innovation and disrupting markets. VCs invest in small promising companies that theoretically have a big potential in the future. Investors also play a big role in why so many innovative companies and solutions exist.

So, investors also predict a lot of future trends and upcoming business industries, before they become popular among general public. From the Figure 3 it can be seen that long before the blockchain technology became popular, investors have already invested in blockchain-related startups. These statistics shows that the investors predict the future trends and generally do through analysis of the market. With looking on what areas the investors are interested in, it is possible to see what will be popular in the future.

But it also poses a question to investors: are they predicting the trends or following them? This makes a big difference as any investor would generally want to enter the market that is not so saturated yet, but will be highly demanded in the future. This difference opens up space for some behavioral theories as well, because as everyone, investors can be susceptible to overestimating the trend importance.

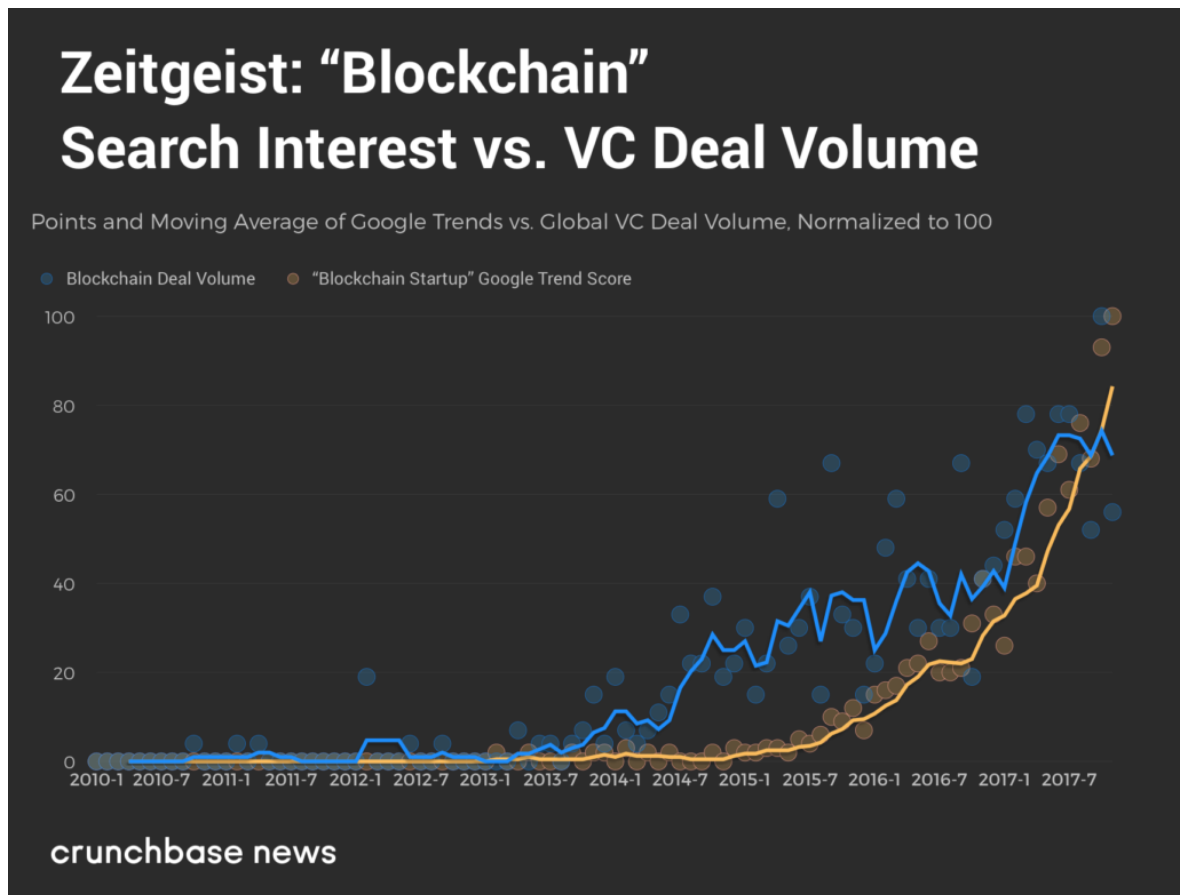


Figure 3. “Blockchain” search interest vs. VC deal volume. (Crunchbase)

2.2 Team factor in venture capital investment

There are a lot of articles about the significance of team dynamics in the startup. According to Noam Wasserman 65% of startups fail due to problems within the startup team (Wasserman 2013). Because of this, it is considered that a startup team plays a significant role on the decision about startup investment. A good idea is often not enough for investors to back a startup. It needs to have a solid team behind it that can ensure the company successful future. Even after investment, VCs dedicate a lot of time to human capital of the startup, sourcing new competent employees that would be a valuable addition to an existing team.

Because the team assessment is quantitative and often times subjective, it is possible that some behavioral factors do influence that assessment. For instance, the similarity bias can be a factor, where the assessment may be biased to people with similar backgrounds. Or it can be anchoring to some specific things about a team that in reality can be not so relevant.

2.3 Smart money factor

The investment in a startup is not just about funding a team with financial resources, it is also about the cooperation between the investor and the startup team. What the investor can bring to the startup is usually the the experience in the entrepreneurship with consulting the team and broad networks helping to seek new staff and possible future investors.

This non-financial cooperation usually plays a big role in startup growth. There is a term for this – the ‘smart money’. What it means is connecting with those investors who can connect with key people in the industry, with whom the startup can do business with. These investors usually work in a specific area or an industry, know it well and have key connections. For instance, it can be people working in heavy R&D to advise startup about their product and how to improve it. It can be finding people who can help with regulatory struggles or correct marketing paths to find exposure for the product. The downside of smart money is that the startup gives out more equity for a smaller amount of capital, but nonetheless some startups go for this option because it gives more possibilities in the future.

Also, according to Forbes article, it is much quicker to find the smart money option, rather than seeking the investor outside of the startup industry. The normal process of valuation usually takes about a year, with the investor understanding the industry and calculating the risks involved in the investment. It is much quicker to find the person who is already in the industry, because for many innovative startups time is really money. (Truman 2018)

3 Behavioural finance existing theories and concepts

In this section, the behavioural finance theories will be overviewed. Mainly those that can be tied to investment and venture capital field. The data was collected using secondary sources from a variety of books and articles.

3.1 Key concepts

In thesis these main theoretical concepts will be covered:

Anchoring

This concept is a part of the behavioural finance field. Anchoring is a form of bias, where a person uses an irrelevant information to assess or estimate unknown value (Montier 2008, 87). With anchoring to certain factor, the investor can rely on rules-of-thumb of his own or use certain psychological benchmarks to make their assessment incorrect. The negative consequence of anchoring is rejecting correct decisions (not funding successful projects) and accepting incorrect ones (funding unsuccessful projects). Potential anchoring targets for investments in small-sized companies would be the high milestones in company history, achievements and accomplishments that do not necessarily give more value to the company.

Confirmation bias

Confirmation bias is a form of disposition to a certain company, where a person forms an initial assessment and interprets all consequent information in favour of that opinion. Or in other words it is simply a tendency to look for information that agrees with us (Montier 2008, 83). Further assessment becomes focused only on information that recalls pre-existing opinions and beliefs. This bias can also lead to wrong investment decisions and inadequate assessment of a company. Confirmation bias can be generated for instance in communication with company directors and investors, where good a bad impression will create an investor bias towards a company.

Similarity bias

Similarity bias is a predisposition to make judgements that unconsciously gravitate towards current surroundings, experience and applied practices (Bueschen, 2015). For instance, it can be the attitude to invest only in projects that have a lot in common with current investor portfolio. Sometimes, it can make an investment safer, by working only in fields where the investor has the most expertise and knowledge. However, in some cases it can be based on irrelevant factors, like similar school where investor and entrepreneur studied, similar background, ethnicity, gender, etc. In that way, the investor judgment gets blurred by irrelevant factors and prevents from rational decision-making.

Heuristics

Heuristics is a term from a psychological field. It is a set of mental methods meant to make a problem solving quicker. These are the rules of thumb that allow people to deal with informational deluge. However, sometimes these rules do not work and deviate from rational decision-making. (Baker & Ricciardi 2014, 35.) These methods deviate from rational logic methods and are based on generalizing facts and draw conclusions from information provided, without any analytical thinking. Because of that, the heuristic rules often lead to biases.

Representativeness

Representativeness (or Availability heuristic) is a form of bias where the person, making a decision under an uncertainty tends to draw judgement from only a few 'representative' factors while neglecting the general picture. For investment decisions, it means to have a tendency to project past and current investment returns into the future, which is not always correct (Baker & Ricciardi 2014, 268). The investor can rely only on a few representative factors, like company past performance or company management while neglecting other aspects of company. This can make a judgment quicker, which is useful, as investors usually process a lot of information, however less precise and objective through neglecting bigger picture where the company at.

Mental accounting

Mental accounting is a tendency of people to put their savings into separate virtual accounts that are based on subjective criteria. For instance, it can be saving for a purchase, personal savings or spare savings that can be spent. It can be seen that there is nothing wrong with that – people want different things and save money for them in separate accounts.

However, it can also lead to irrational decision-making. With mental accounting the total savings are divided into categories and therefore treated differently. For example, people may treat their 'money jar' savings differently than their debt payment. While saving their 'money jar' money (for instance for a vacation or housing purchase), a person can have substantial credit card debt that with time brings compounded interest, decreasing one's total net worth. This is not an only example of mental accounting effects. It can also be seen in various other ways. But the general rule of thumb is to treat all money and assets the person has equally, without overvaluing some parts or accounts of it.

3.2 Investor behaviour

In this section, we will look at behavioural finance theories and models. The basis of this model is behavioural finance theory that contrarily to traditional financial models tells In real work-life investors receive a lot of investment proposals and investment opportunities from a variety of sources. It can range from stocks, bonds or venture capital investments. Angel investors or VC funds receive a lot of investment proposals from companies and have many data to assess. This leads to a situation where the investor can choose where to invest and compare different companies and cases.

In this case, we will look on how investor decision-making can be affected by two main criteria: financial aspects of the venture and non-financial. The financial factors are based on past company performance, its ratios and quantitative financial data. The main point of financial aspects is the potential return on investment: the higher it is, and the lower the risk, the more attractive the investment possibility is.

This are all rational factors that are based solely on numbers. However, there are also non-financial factors involved. As the investor wants to save and augment its funds from the venture, investors try to locate the safest options that will less likely lead to a failure. Investor can look on company management to see how effectively it works, on company ability to scale on the market and also on other non-financial data. There are also certain biases that can affect investor behaviour that distort and make the certain decision less rational.

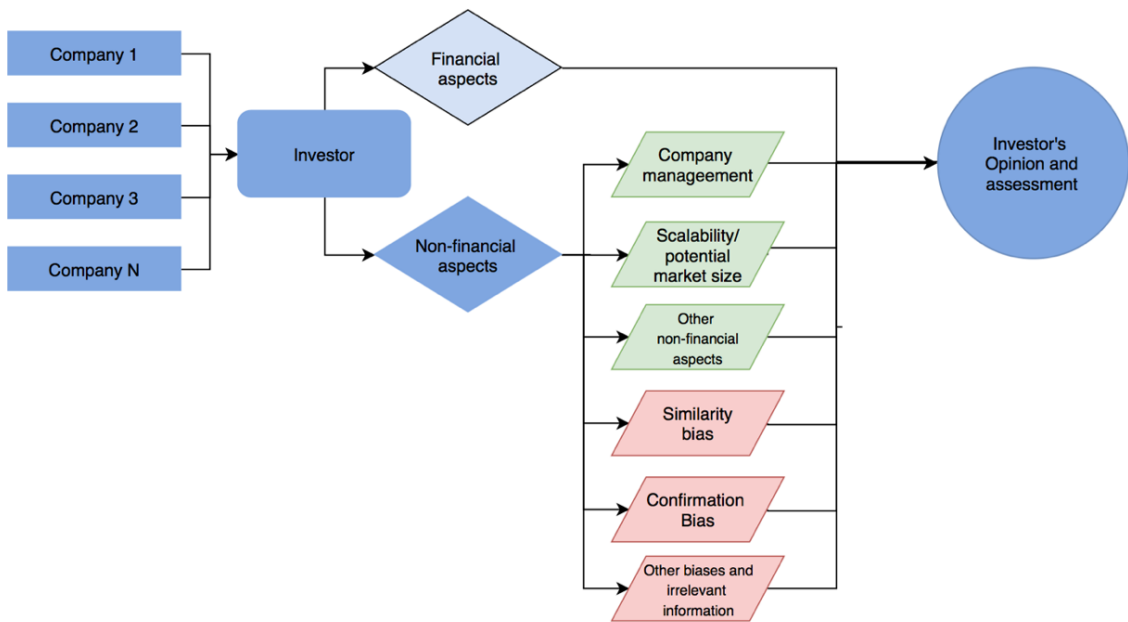


Figure 1. Simplified investor behaviour description

3.3 Behavioural finance theory

The behavioural finance is not a theory in itself, but a field of science that has multiple theories and concepts in it. It is relatively new field and it combines the traditional economics theory with methods from psychology and cognitive sciences to provide answers why people do not always make rational decisions. It implies, contrary to traditional finance theory that human being do not always act rationally and influenced by certain biases. This field will be introduced in thesis briefly.

This field is based in the stock markets investments, where investors trade high-liquidity assets like stocks or currencies. It studies how basic human emotions, like fear, greed, overconfidence or risk aversion can influence the behavior of players and therefore the stock prices.

In the thesis process, the behavioural finance theory will be used to explain non-financial aspects of why investors prefer one companies to another. In next chapters we will look at the existing theories that can be applicable to the field of research.

3.4 Prospect theory

Prospect theory is a theory that comes from behavioural economics. It presents how people chose between probabilistic alternatives that involve risk. The main evidences from this theory come from the field of heuristic. It demonstrates that gains and losses are viewed differently and people seek to averse high-loss risks and seek high-gain risks (Figure 2).

It is best described in an example between two options, where:

Option A proposes \$15 loss straight.

Option B proposes entering a lottery, with a 10% risk of losing \$100 and 90% risk of losing nothing.

In probabilistic calculations, the option B is more favourable as it has total probable loss of only \$10 ($\$100 * 10\%$). However, the prospect theory model tells that option A is more commonplace in reality, as people tend to averse high-loss risk options. (Tversky & Kahneman 1986, 10)

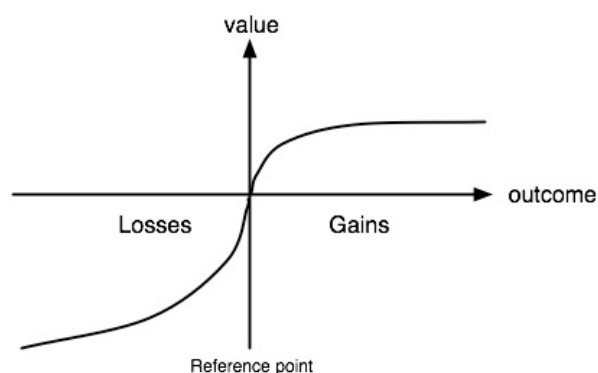


Figure 2. The value function of human risk evaluation

From the Figure 2, it can be seen that the curve is not symmetric, how it should be in rational decision-making, using probabilistic calculation. It gets steeper in losses, meaning that people tend to overweight possible losses over gains. This theory would be used to

explain how investors can be unconsciously drawn to risk-aversion in their investment decision-making.

3.5 Behavioural investor types

Michael M. Pompian in his book 'Behavioral Finance and Investor Types: Managing Behavior to Make Better Investment Decisions' gives a typology of different investor types. Each is a psychological portrait of an investor type, with its upsides and downsides. In my opinion, it shouldn't be on-fits-all model, with each person categorized in a certain group, but it gives interesting types of behaviour and learning each type, knowing its positive and negative sides can make a deeper understanding of investment behaviour.

The Preserver

Preserver investor type describes an investor who emphasises financial security and preserving wealth rather than taking any risks. They do their best to avoid losses and consider each financial decision very seriously. The preserver type often sticks to the status quo to avoid any risks and chooses the safest option of investment to preserve wealth. It is common for preservers to be people who have already accumulated some wealth and would like to accumulate it. For example, it may be a person who focuses on wealth to take care of family members, future generations or funding some charity campaigns. (Pompian 2012, 104)

This is somewhat a conservative approach to investing: preservers tend to keep their portfolio least volatile and they can actually accumulate long-term wealth as long as they keep investing in safe options. The downside of this type, is that it has a risk aversion (see Prospect theory chapter 2.4) and status quo bias. They strongly emphasise risk-aversion, avoiding high-risk options. This leads to generally low returns on the investments. Pompian M. compares the preserver type with people who invest in cash and bonds. These are one of the safest investments, however they generate low returns.

Another way, how it can be explained is through general market fluctuations. For instance, during 2008 crisis, a lot of investors went for restructuring their portfolio to save what they already have. Because of market upheaval, this preserver behaviour seems as a rational

decision, where people try to save resources in bad market conditions. However, in positive volatility situations, this is often not the best behaviour, as its not leveraging on the market conditions.

The Follower

The follower type is the type of investor who is passive and often lacks knowledge of investment, nonetheless doing investment practice. This type follows opinions of other more professional investors or the general market trends. Followers highly emphasise market trends and follow them. The followers are also eager to take risks, underestimating the downsides of risk-taking. The upside of this behaviour is low portfolio turnover, which is often a good thing. Followers also can hire advisors who can adjust their investment decision-making in a positive manner. (Pompian 2012, 113)

The followers type often derive from calculated investment planning by overestimating current events and trends or just following a crowd. In other words, followers are susceptible to recency bias. They disproportionately weight the importance of recent events and rely too heavily on recent news and trends. Very often those events do not give a large picture and its not always necessary to take cues of what is happening at the moment.

The Independent

The independent type is quite the opposite of the follower. The independent types are heavily engaged in investment and spend a lot of time analysing the current market conditions. Independents are analytical and critical players, who thoroughly examine the factors influencing their investment decisions. This is generally a positive side, because they do not just blindly follow trends like followers and do market analysis to some extent

However, very often they have the 'contrarian' attitude to investments. They do not like to follow a crowd and often have their own unique ideas about investment. It is quite like the Followers but flipped. The Independent type tries to be original in the investment decision style. This is also considered as a bias, because this behaviour in trying not to follow a crowd is still overly affected by current events and trends.

The Accumulator

Accumulators are those investors whose main aim is in accumulating as much wealth as possible. Unlike a Preserver, Accumulator is always in a race to gain financial resources.

Accumulators usually had previous successful experience in entrepreneurship or other business areas. And they want to become successful in investment as well. Accumulators are risk-takers who do not hesitate to take on high-risk opportunities and they are firm believers that whatever risky path they take; it is the correct one. They actually analyze the market and not so much influenced by current trends, like the Follower and Independent types. (Pompian 2012, 136)

The main weakness of the Accumulators is their overconfidence. This overconfidence bias is best described as the unwarranted faith in one's thoughts and abilities (Pompian 2012, 137). People who have been successful in other businesses are also quick to extrapolate this experience to other areas. However, this excessive confidence can lead to decisions that have risks way too disproportionate to return possibilities.

4 Research design and methods

4.1 Desktop research using secondary sources

The theoretical basis will be formulated through the secondary sources of literature. Information from Chapter 2 and 3 is gathered from desktop research.

In Chapter 2, about the VC industry overview, information was taken mainly from articles and author's own knowledge about startup scene in Helsinki and its common practices. This part was written as a brief overview to explain how VC area works, so that the latter sections can be better understood.

For the behavioural theories explanation, there are two main books from which information was taken: *Behavioral Finance and Investor Types*, by Pompian, M. and *Investor behaviour* by Baker, K. & Ricciardi, V. With using these books, it will be possible to formulate the theoretical background and prepare the interviews: what questions should be asked and in a what way.

4.2 Interview research

In research, the quantitative research method will be used. This approach is proffered as the thesis covers fields of psychology and therefore detailed and comprehensive responses will be more suitable for research purposes. The scope of thesis is only on investors as a target group, so interview is also more preferable due to small research sample size.

The research is aimed to learn how significant behavioural finance theories in real investment sector in Finland and how investors relate to the theories demonstrated and to what extent they are aware of them.

The interviews are most likely to be face-to-face and documented using a recorder, depending on the respondents' convenience. Prior to the interview, the question set will be prepared, using the qualitative interview frame tool. There will be mainly open-ended questions asking about the theories, awareness of them and their application in their practices. With the responses it will be possible to bring a perspective from real-working practices in Finland. Taking into account the thesis demarcation, any investor fitting into this group should be able to give accurate picture of investment practices.

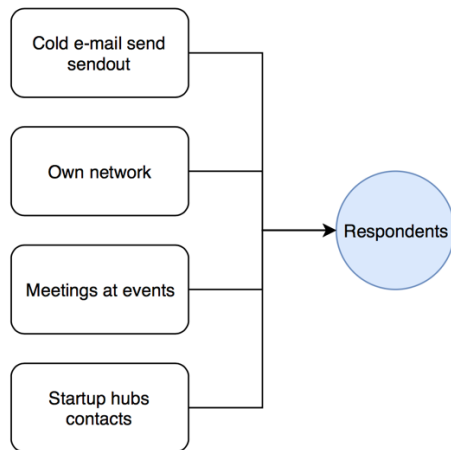


Figure 3. Contacting interviewees process

The research will be aimed at getting 3 respondents to interview to get the realistic picture. As investors are usually working close and I expect a little diversity of opinions in the investment field in Finland. The respondents will be drawn mainly from my own network and through e-mail invitation to VC funds, investment funds, banks and angel investors working in Helsinki area. I also plan to visit startup hubs, like Maria01 or HUB13, where it will be possible to get potential respondents.

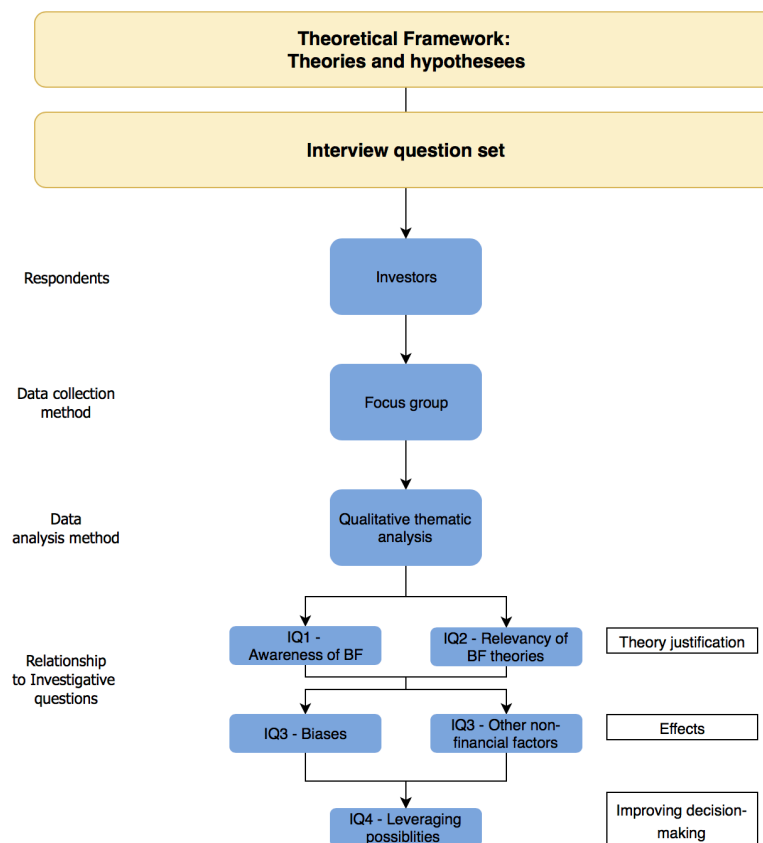


Figure 4. Research design visualization

4.3 Interview design

The interview will be of a semi-structural type. (Sanders 2015, 391). The interview question set will be prepared beforehand, however their order will vary. The interview is open-ended and it will be possible to bring up new ideas during the interview, as a result of what an interviewee says. The questions of the interview can be read in Appendix 2. There are total 6 questions, each corresponding to the investigative question. Also there are two general questions, asking about the investor background and experience. This will help to identify the background of the respondent and tie their answers with their background and experience.

In my opinion, in the interview design it is important to keep neutrality in the question set, asking the questions in the most unprejudiced manner. The questions about the topics of biases and behavioral effects may be sensitive themes and the investment field generally can not just simply give away all their practices, as this data might be not public.

4.4 Validity and reliability

All respondents will be asked a same set of questions set phrased in a neutral tone and setting. The questions will be open ended, so the most data can be collected. It will be important to consider that respondents may also be biased to a question that asks about their behaviour as it might will question their professional credibility. So it is important to phrase the question in the most neutral setting without bringing own opinion (Gubrium & Holstein 2002, 14).

3 respondents should be enough for the research reliability, in my opinion. Investors work in a field with a concluded goal – maximizing return on investments as a main aim. So therefore, there is a set of concluded good practices for investors to follow and have understanding of. With that, I expect a consistent data from responses, which can be applied to a general investment field in Finland.

To improve further the research reliability, the research will be conducted through survey interviews, with pre-made questions. This will make possible to eliminate the errors in the interview and avoid biasing answers. This standardization will help to help to make the interviewer's behaviour more constant and reduce the interviewer's contribution to variance and therefore improve research reliability. (Gubrium & Holstein 2002, 578.) The interview questions set will be attached to thesis appendix.

4.5 Risks and risk management

The biggest risk of this study is conducting the interview properly. It should comply with both validity and reliability requirements, while also providing enough information to answer the investigative questions. With that, the interview questions should be well structured and thought out prior to interview.

Another risk is not getting the needed amount of data from investors. Getting experienced investors and entrepreneurs is preferred, however, any respondents with positive practice experience will comply with the demarcation criteria. There is no any risk except time constraint, but research will not be finished until suitable respondents will be found.

5 Results

This section was written after the interviews were conducted. There were total 3 interviews: with Seppo Savolainen from Straightforward Capital, with Juho Risku from Butterfly Ventures and with another investor preferring to stay unknown. The interviews were somewhere about 15-25 minutes. Through these interviews it was possible to gain insights into investment practices and give some answers to the investigative questions.

It was interesting to get responses from multiple angles, where Straightforward Capital invests in late-stage companies and cooperates with university researchers, investing in more technology-heavy startups. Most of the companies Straightforward Capital invests in already have a revenue and financial data to assess.

Whereas the Butterfly Ventures is the opposite – it invests in early-stage startups with a good idea, having 50 companies it invested in. Most of the startups are in IT and biotech. As stated on the company website, the VC fund invests in the startups early on. 80% of companies do not have any revenue yet, however after a year working with Butterfly Ventures, 80% of them do (Butterfly Ventures 2018).

5.1 Investigative question #1 — Behavioural factors awareness

Generally, all respondents agreed that they are aware about the behavioural factors that can influence their decisions. They agreed that it plays a role in their investment decisions to some extent. While not all respondents said that they studied that field, they were aware about the general concepts and theories.

To the question, whether they would like to know about it, there was some hesitation. It is not apparent that behavioral finance theory would be exactly applicable to investor job. More about it in the next section.

5.2 Investigative question #2 — Theoretical framework relevancy

All respondents agreed that the behavioural finance theory plays a role in their practice, however in not so large extent. In the interview, Seppo Savolainen said that the behavioural finance field is more relevant for a more liquid market, like shares. It is more applicable there due to a large number of players on the market and more unpredictable nature

of stock markets. There are only about 15 venture capital companies in Finland and the behavioral factors sometimes simply do not come into play as strongly.

However, Seppo also mentioned that the effects of behavioural theories can be also seen in VC fund sphere as well. Some industries are more talked about than the others and there are some industries that investors really try to get into. For instance, Seppo mentioned Internet of Things or Cryptocurrency startups as an example. Many funds are rushing there, because these topics are popular at the moment. And very often that trend following can lead to irrational investment decisions.

In the interview, Juho Risku stated that in Butterfly Ventures fund, about 60% of factors that are non-financial. This is purely because early-stage startups do not have financial data by nature as they usually have not started operating yet. This means that non-financial factors they do come into play more strongly, perhaps also including the concepts of the behavioural finance theory. The non-financial factors are qualitative and normally cannot be measured completely objectively.

5.3 Investigative question #3 — How investors manage biases

All respondents agreed that they are susceptible to certain biases. Even with trying to come up with the most rational decision, people are still people and even investors are prone to have some biases. Almost always this bias is subconscious and people are susceptible to it without even realizing that they have a prejudice to something. But most investors seem to understand that and they try to plan their decision making considering the fact that their opinion may be biased.

It was interesting to learn that biases themselves are sometimes not a necessarily negative thing. Very often biases as prejudice can be interpreted as a form of intuition. For instance, investors can have an expertise in a certain field, and therefore they are biased to work with startups in this industry as well. Also, investors have to take into consideration lots of factors that can influence their investment decision. Investors are very often susceptible to data overload and intuition helps to make up an opinion that can be rational.

Here we will look on ways how investors tackle negative biases that can lead to irrational decisions:

Paying attention to the customers

One respondent stated that the best way to negate biases in decision making is not to listen to startup pitch as much as to listen to the customer. Learning customer satisfaction levels, listening to what startup brings to the client is not only essential for the business to run, but it also gives a truly objective opinion on company value. Investors communicate with not only the startup but the customers to negate any biases that may come from the impression of startup representatives.

However, with that said, it is tricky to get this data in the early-stage company context. Very often these companies do not have any customers yet and it is more difficult to learn about the client. In this case, consultation with possible clients is available, asking people how the service or a product would be helpful to them. This third-party data from customers helps to get a bigger picture and understand will the company be successful or not. This is as important that the input the customer gives is objective, with a large enough sample size. The end goal of any company is to meet the customer needs, to solve their problems, and if the company target audience is not satisfied, then the company is not likely to succeed.

Multiple opinions in decision-making

Another way how the investment fund can make more rational decisions is making decisions as a team. In the interview, Juho Risku from Butterfly Capital stated that in their fund they try to eliminate biases by assigning multiple people to take part in the investment decision. As Juho said that if one person may be biased, with 3-4 people making decisions on investment the possibility of a biased opinion gets lower.

While one person may have one's own opinion about a company, multiple people in a team may not so. Making decisions on team meetings gives multiple angles and opinions about the assessed startup. When working in a team it is more natural to give arguments that are more objective and rational, opposite to when formulating the opinion solely. Very often when a person has an irrational bias, it is hard to formulate this opinion to colleagues and give objective arguments for that opinion.

Trying not to follow trends

Even in such small spheres as VC investments with its small number of players, there is an extensive publicity and hype around certain industries. For instance, there is currently a lot of publicity about Blockchain, Internet of Things (IoT) or Artificial Intelligence (AI) industries. As it was seen in chapter 2.2 about the trends in VC investments, there is a

growing general public awareness about that field. It is tempting to also go with the trend, investing in companies working on that area. However, the blind trend following can also be seen as another kind of bias.

In the interview, Seppo Savolainen said that 'If all other funds want to get into a certain industry, my reaction to it is that I don't want to be there'. A lot of funds are rushing into specific areas that are trending, but since so many people try to get into that, is there a point to do it yourself? The role of investors in innovation is to foresee future trends, to see which companies will become sought-after in several years after operating. There is a lower chance of possible profits when investing in a company that works in a field which is already demanded by public. This is similar to the 'Follower' investor type, described in chapter 3.5, where an investor tries to follow trends, without thorough market and company analysis. This behaviour might lead to negative results.

Standardized model for company assessment

To analyse the company more in-depth and have a framework for startup assessment, some funds utilize a standardized model with which they assess the company. With having a unified model for assessment, it is possible to directly compare investment possibilities and have more arguments to invest in a certain company.

In the interview, Juho Risku said that in Butterfly Capital venture fund, they use a scoring model, when assessing investment proposals. It is used as a discussion framework, where a scoring model gauges and calibrates each case. The final result is brought up in a discussion, where it is possible to support the final decision, using the data from a scoring model. This solution can also mitigate biases, as this framework is unified and can apply to all companies.

5.4 Investigative question #4 – Other non-financial aspects investors look at

When assessing a company, there are usually balance sheets, sales projections and other financial data to assess. But there are always other non-financial factors that come into play. These factors are not quantitative and cannot be expressed in numerical way, but nonetheless they play a crucial role in the assessment of the company. In this section, the main non-financial factors in startup assessment will be discussed.

Team

As the anonymous respondent said, the team is the primary criteria of a startup, especially in its early stages. For companies that have not started operations yet, the team is its main asset. Investment in a startup is not a short and quick one. Usually the return on investment happens only after several years after the company started operating. With this, the investors have to be sure that the startup team will be capable to operate a company in a long run.

There are many obstacles in starting a company, coming from multiple angles – how the startup can start its operations, how the startup will be marketed, how the company will communicate with its clients, how it will ensure its growth and so on. Ideally, the team have to have all these competences to successfully run a company. The team factor is especially relevant, because the startups usually have a small number of employees, around 2-5 people most of the time. The team has to be well-rounded, able work in several areas and most importantly work on growing and scaling the company.

Scalability

The possibility of a startup to scale is another crucial factor, when making a decision on an investment. It was highlighted by most respondents that the scalability is a must factor to invest in a company. The point of venture capital funds is to invest in small startups that have a potential to grow and scale. That is partly why there are so many IT startups that received venture capital investment. It is easier to scale them and start operating globally relatively easy, rather than brick-and-mortar business models.

There are multiple components whether the business model is scalable. But the most important is the scalable idea. The best example is a software product, because the startup does not need to spend money to produce a new product every time the company sells it. The time the software is developed, it can be duplicated the unlimited number of times. If look at the most successful startups of last several years, like Airbnb or Uber, at their core they are software companies. Airbnb does not own any hotels and Uber does not have its own cars as their property. What they do is that they provide a service on their own platform that is more convenient to use.

Idea

Another common point the investors look at is the business idea at the core of the company. For a company to scale it is important to have a unique idea or a solution. To differentiate itself on the market, the startup has to bring innovation and disruption to the market. It also plays a role in the scalability, as the startup must have much faster growth comparable to normal companies. In many cases, the idea accounts for this growth; the company has to have a product that is so drastically different from what other companies in the industry are offering. They have to have distinctive features that differentiate them.

Going back to the Uber and Airbnb example, it can be seen that these companies had not only the unique business model, but also a unique product. For instance, Uber removed mediators between a customer and a driver, which drastically improved cost efficiency and made taxi commute a lot cheaper. Airbnb lets anyone rent a room, making a whole new accommodation option for travellers, creating a differentiated product to which there were little alternatives, when the company was at its growing stage.

5.5 Investigative question #5 - Ways to leverage on behavioural finance effects and recommendations for entrepreneurs

In this section, the investment will be looked from an entrepreneur perspective. In the interview, there was asked a question, what the entrepreneurs can do in order to get the investments earlier and have better options for getting funding.

Not all companies actually need VC investments

From the previous section, it can be seen that there have to be multiple parameters of company be matched, for it to be applicable for a venture capital funding option. VC is the specific area and it works only in specific cases. For a company to get VC investments it has to be scalable, innovative, have a robust team working behind it and other important factors. Not all startups have that, and venture capital financing just might be not the best way to go.

Also for some companies, there may be better financing options. For instance, for product-oriented companies that need financing just to produce a certain product to clients, there is a crowdfunding option. It will let communicate directly to the future clients and get funding from them. If marketed properly it can also generate interest in the product from

the general public alongside with financing. Though as any market, crowdfunding is also competitive and the product has to bring real value to people. The upside is that it gives customers already before the process of production.

In Finland there are also other ways to get funding, like the Tekes governmental grant for R&D-heavy startups that bring innovation. In 2016 alone, it funded 142m€ for 881 startups (BusinessFinland 2017). This is a great way to get funding for developing a new technology or innovative business model. Also, it works for companies that are tied to the public sector somehow or cooperates with the municipalities.

Some incubators and accelerators are offering some funding as well. For instance, there are startup acceleration programs like Kiukas are not only provide coaching and accelerating services, but they also have funding possibilities, which is suitable for small startups that just need money to get the company running.

For more usual businesses, there is a debt-financing option from the government. It would be most applicable for more common businesses with less risks involved. The downside is of course the debt for the company, however the plus is that the company founder will remain as its owner.

So, it can be seen that VC funding is not the only option for startups. VC funding is specific and can apply only in certain cases.

Team is everything for early-stage companies

If the company is in the early stages and would like to get financing from venture capital, it is necessary to be aware that the primary focus for investors is on the startup team. As mentioned, in the previous section, team is viewed as the main asset of the startup. Because the startup does not have any revenue yet, the team is the main factor that the investors pay attention to.

The team has to be agile and have multitude of competences on multiple business areas. This can be backed up with a previous working record and past entrepreneurship experience. It gives much more credibility if some people in the team had previous successful experiences in running a startup or any had any other entrepreneurship experience.

And at the same time, the team has to work cooperatively. Because startup is usually a small team, it does not have any fully managerial roles. Ideally, the team has to have this

unified managerial body, comprising of its members. Decisions in the company have to be made with all members together, because each member is a big part of the team. If the startup has the CEO or anyone else who is in the leading position, one has to represent the team and manage the team accordingly. What is also highly important in the team for it to function efficiently is a common vision of the company, shared by all members. The startups usually bring innovation to the market and the company has to have a vision of what value they bring to the world, when working together. This common vision oftentimes helps to work cooperatively and have less disagreements between team members.

Good relations with the investor

It was shown in chapter 2.3 about the smart money factor, the cooperation with investors is not just simply about money. What investor can also bring to the company is his experience and possibly broad connections that can help a team to develop. As the investors are also interested in the company to grow, they can provide guidance for a company.

So, investor is not just a party that finances the startup but also a company partner. It should be considered that an investor is a That means that good relations are highly important. The startup development is a long process that lasts for several years and so is the cooperation with the investor. Nobody would simply like to work for such a long time with a person with which they are on bad terms.

6 Discussion

In this section, the research takeaways from the interviews will be discussed and highlighted.

6.1 Degree of behavioural finance significance in Finnish startup ecosystem

Thought the interviews it was concluded that the behavioural finance theory plays a role to some extent in real investor working practices. The main argument against its relevancy is the small size of the field and few number of players in the venture capital in Finland. However, as the volume of VC deals will increase in the future (which it probably will, according to statistical trends, see chapter 2), the behavioural factors can become more apparent.

The awareness level about behavioural finance study field was low. Some respondents were slightly aware about the behaviouristic theories but did not have understanding of them. However, that does not mean that these behavioural factors do not influence the financial behaviour. It was proven that they have an effect on general audience and their buying behaviour, so it can also influence the investor financial decisions as well.

6.2 Best practices taken from interviews and theoretical framework

From the interviews and secondary sources research it was possible to get insights into how investors conduct their decision-making. From interviewing the investors from the leading VC funds in the country, it was learned what are their practices to tackle the biases when making decisions on startup investment.

So this is the outline of best practices for investors to potentially improve the decision process:

1. Involve multiple people in the decision process. If one person may be biased, it is less likely that several people will.
2. Listen to the startup customer audience. They are the objective measure of what value the company actually brings.
3. Create a valuation tool to assess startups. The assessment of startups with a singular tool will be more precise.

4. Current trends can guide what is popular at the moment, however the investor's job is to predict future trends through market analysis. Simple trend following is not a good practice.

It was also discussed how the entrepreneurs can get investment sooner and see whether their company is fit for the venture capital investment type. This is an outline of advices for entrepreneurs willing to get investments from venture capital:

1. Pay attention to the startup team and its presentation, especially if the startup is in its early stages.
2. Build good relations with the investor prior to an investment and sustain them after. The cooperation with an investor can bring positive results.
3. Have an original idea that strongly differentiates the startup from the competitors.
4. Have a business model that can be scaled to higher volumes.

7 Conclusions

What sparked the thesis idea is my general interest in Finland startup scene and in psychological factors that influence our decisions. I think in the thesis process, I dived into both of these themes and tried to make connections between them. The thesis process was a helpful experience. I think, the process of research was probably the best learning outcome, as it gave insights in not just about behavioural finance but also about the general common practices in the investment field. The interviewees gave a lot of good points and all conversations were highly interesting.

The key outcomes from this thesis are:

1. The degree to which the behavioural finance theory influences investors in VC field is not that high, compared to investors in high-frequency trading, like with stocks or currencies. The main reason for that is a low number of players in the field, especially in Finland. But it still plays a role in interpersonal relations between an investor and an entrepreneur.
2. The more company is in its early stages of development, the more non-financial criteria of assessment come into play. Because there is less financial data to analyse in small startups, investors are more concerned with quantitative factors, like team background, their teamwork, their vision, the core of the business idea, etc. These factors are more subjective and therefore early-stage startups are more sensitive to certain investor's biases.
3. Biases are not an inherently bad thing. Even if certain investor decisions seem highly subjective, they can come from their experience and knowledge of the industry. There is a blurred line between what is called a bias and what is called intuition.
4. There are multiple ways to improve decision-making process, taking into account behavioral finance theory. They are outlined in the chapter 6 and explained in chapter 5. Mostly they have to do with relying on more objective criteria and double-checking own presuppositions.

Overall, I am satisfied with the final thesis result. I really think it can be beneficial for investors to learn about this field just as it was helpful to me. The final key points can be a good takeaway for the reader to understand on what main key points investors mainly look at.

Because there is so little secondary information about the connection of VC sector and behaviouristic theories, I think the further studies should be focused on conducting more research on those topics. It would be very interesting to make a research with a bigger sample size. The investors from not only Finland can be interviewed and it is possible to analyse the difference between several countries and cultures.

It must be said that these psychological factors and biases are quite hard to research. The respondents can be reluctant to answer questions about their own biases. The quantitative research method is certainly more preferred, in my opinion, as it will be difficult to get adequate data from standardized surveys.

The behavioural finance topic is highly interesting and can give a really valuable insight into how people make certain financial decisions. These psychological factors affect every one of us and the investors are no exception.

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Appendices

Appendix 1. Research interview invitation letter

Dear xx,

My name is Valeriy and I am a Haaga-Helia student and, currently researching VC investment practices.

My topic is on behavioural finance theory and I am writing about the non-financial factors that influence investor decisions. For research, I am conducting interviews with investors in Helsinki area.

Here is the outline of questions that I am researching:

- Non-financial factors that influence investment decision in a startup
- Behavioural theories relevancy in real investment practices
- Biases in investment practices: helpful or unfavourable?

Your input would be highly helpful, considering your expertise in xxx. I would be happy to arrange an interview with you at your office or via Skype. This interview won't take more than 10 minutes of your time.

If that is possible, let's arrange a suitable date.

Kind Regards,
Valeriy Ivanov

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[Skype](#)

Appendix 2. Interview questions

Interview questions

1. *How long have you been working in investment field?*
2. *What industries are you specialised in at your investments?*
3. On what other non-financial factors do you look when assessing the company or a startup? (IQ4)
4. In my opinion, there is no denying that in any decision making, people are susceptible to certain biases. Because of data overload, especially in investment sector, people tend to generalise things. For instance, it can be a tendency to work at fields and industries that you are most familiar at, or it can be tendency to work with people of certain gender or ethnical background. Are you aware that there are some biases that can influence your investment behaviour? (IQ1)
5. Do you try to avoid being biased or the opposite rely on it? (IQ3)
6. There is a field of science called behavioural finance, that analyses behavioural factors influencing people's financial decisions. Are you aware about any cognitive behaviour theories that influence our financial decisions? What do you know about them? (IQ1)
7. *If answered no to previous question: For instance, in the behavioural finance theory there is a thing called anchoring. It means a case when a person literally anchors to a certain fact that may be totally irrelevant. Or there is a confirmation bias, when a person forms an initial assessment and then interprets all information in favour of that opinion. Do you think that all these theories are any relevant for your practices? (IQ2)*
8. Let's try to look from a startup perspective now, considering all discussed previously. On what non-financial factors should a startup team pay attention to, in order to get investments? (IQ5)